

WHAT IS CLAIMED IS:

1. A cell reselection method by a user equipment (UE) receiving a Multimedia Broadcast/Multicast Service (MBMS) service in a serving cell of a mobile communication system including a plurality of cells and providing the MBMS service, the method comprising the steps of:

receiving a control data of the serving cell, including configuration information necessary for accessing MBMS control channels (MCCHs) of neighbor cells and control information necessary for accessing an MBMS data transport channel (MTCH) of the serving cell, over an MCCH of the serving cell, and storing the received control data; and

if cell reselection to a target cell, which is one of the neighbor cells, is determined, moving to the target cell by utilizing the configuration information stored for the target cell.

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2. The cell reselection method of claim 1, wherein the configuration information includes a primary scrambling code, a transport format, a spreading factor (SF), and a code number for each code channel to which the MCCHs of the neighbor cells are mapped.

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3. The cell reselection method of claim 2, wherein the configuration information further includes scheduling information for the MCCHs of the neighbor cells.

4. The cell reselection method of claim 3, wherein the scheduling information includes a transmission period, a transmission time, and a data length for one period, for control information on a code channel to which a corresponding MCCH is mapped.

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5. The cell reselection method of claim 1, wherein the control information includes a spreading factor, a code number, and a transport format set (TFS) of a code channel to which the MTCH of the serving cell is mapped.

5 6. The cell reselection method of claim 5, wherein the control information further includes a service identifier for each MBMS service provided in the serving cell, packet data convergence protocol (PDCP) information formed for an MBMS stream, and radio link control (RLC) information for the MBMS stream.

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7. The cell reselection method of claim 1, wherein the step of receiving the control data comprises the steps of:

receiving, in the serving cell, system information including scheduling information of the control data; and

15 receiving the control data according to the scheduling information.

8. The cell reselection method of claim 7, wherein the scheduling information includes a transmission period, a transmission time, and a data length for one period, for the control data on a code channel to which the MCCH of the
20 serving cell is mapped.

9. The cell reselection method of claim 1, wherein the step of receiving the control data comprises the steps of:

receiving, in the serving cell, first system information including
25 scheduling information of the control data;

receiving second system information including a spreading factor, a code number, and a transport format set (TFS) of a code channel to which the MCCH of the serving cell is mapped; and

receiving the control data using the first and second system information.

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10. The cell reselection method of claim 9, wherein the scheduling information includes a transmission period, a transmission time, and a data length for one period, for the control data on a code channel to which the MCCH of the serving cell is mapped.

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11. The cell reselection method of claim 1, further comprising the steps of:

measuring qualities of signals from the serving cell and the neighbor cells;

10 designating the neighbor cells satisfying a service criterion provided from the serving cell as candidate cells;

receiving control information necessary for accessing MTCHs of the candidate cells, over MCCHs of the candidate cells, using configuration information stored for the candidate cells;

15 storing the received control information;

determining priorities of the serving cell and the candidate cells;

if there is at least one candidate cell having a priority that is higher than the priority of the serving cell, selecting the at least one candidate cell having a highest priority as a target cell; and

20 receiving an MBMS data stream over an MTCH of the target cell using control information stored for the target cell.

12. The cell reselection method of claim 11, wherein the signal qualities include a received signal code power (RSCP) and a chip-energy-to-noise ratio E_c/N_o for common pilot channels (CPICHs) of the neighbor cells.

13. The cell reselection method of claim 11, wherein the service criterion is satisfied when the measured RSCP is larger than a first minimum value provided from the serving cell and the measured E_c/N_o is larger than a
30 second minimum value provided from the serving cell.

14. The cell reselection method of claim 11, wherein the step of determining the priorities comprises the steps of:

calculating the priority of the serving cell by adding one of an RSCP and
5 an E_c/N_0 measured for the serving cell to a weight previously given for the serving cell; and

calculating the priorities of the candidate cells by subtracting a weight previously given for each of the candidate cells from one of an RSCP and an E_c/N_0 measured for each of the candidate cells.

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15. A method for providing a Multimedia Broadcast/Multicast Service (MBMS) service to a user equipment (UE) moving between a plurality of cells in a mobile communication system providing the MBMS service, the method comprising the steps of:

15 transmitting system information including information on a secondary common control channel for an MBMS service of a serving cell over a primary common control channel of the serving cell; and

transmitting control data including configuration information necessary for accessing MBMS control channels (MCCHs) of neighbor cells and control
20 information necessary for accessing an MBMS data transport channel (MTCH) of the serving cell, over the secondary common control channel of the serving cell, while providing the MBMS service over the MTCH of the serving cell.

16. The method of claim 15, wherein the system information
25 includes first system information including scheduling information of the control data, and second system information including a spreading factor, a code number, and a transport format set (TFS) of a code channel over which the control data is transmitted.

17. The method of claim 15, wherein the configuration information includes a primary scrambling code, a transport format, a spreading factor (SF), and a code number of each code channel to which the MCCHs of the neighbor cells are mapped.

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18. The method of claim 17, wherein the configuration information further includes scheduling information for the MCCHs of the neighbor cells.

19. The method of claim 18, wherein the scheduling information
10 includes a transmission period, a transmission time, and a data length for one period, for the control information on a code channel to which a corresponding MCCH is mapped.

20. The method of claim 15, wherein the control information
15 includes a spreading factor and a code number of a code channel to which the MTCH of the serving cell is mapped.

21. The method of claim 20, wherein the control information further includes a service identifier for each MBMS service provided in the serving cell,
20 packet data convergence protocol (PDCP) information for an MBMS stream, radio link control (RLC) information for the MBMS stream, and a transport format set (TFS) of the MBMS stream.

22. A cell reselection method by a user equipment (UE) receiving a
25 Multimedia Broadcast/Multicast Service (MBMS) service in a serving cell in a mobile communication system including a plurality of cells and providing the MBMS service, the method comprising the steps of:

if candidate cells for cell reselection are identified while an MBMS service is provided in the serving cell, receiving first system information of the
30 candidate cells including scheduling information necessary for accessing MBMS

control channels (MCCHs) of the candidate cells, and second system information of the candidate cells related to a code channel to which the MCCHs of the candidate channels are mapped;

receiving control information necessary for accessing MBMS data
5 transport channels (MTCHs) of the candidate cells over the MCCHs of the candidate channels, using the first and second system information;

storing the received control information; and

if cell reselection to a target cell, which is one of the candidate cells, is determined, moving to the target cell by utilizing the control information stored
10 for the target cell.

23. The cell reselection method of claim 22, wherein the scheduling information includes a transmission period, a transmission time, and a data length for one period, for the control information on a code channel to which the MCCH
15 of the corresponding candidate cell is mapped.

24. The cell reselection method of claim 22, wherein the second system information includes a spreading factor, a code number, and a transport format set (TFS) of a code channel to which the MCCH of a corresponding
20 candidate cell is mapped.

25. The cell reselection method of claim 22, wherein the control information includes a spreading factor, a code number, and a transport format set (TFS) for a code channel to which the MTCH of a corresponding candidate
25 cell is mapped, a service identifier for each MBMS service provided in a corresponding candidate cell, packet data convergence protocol (PDCP) information for an MBMS stream, and radio link control (RLC) information for the MBMS stream.

26. A method for providing a Multimedia Broadcast/Multicast Service (MBMS) service to user equipments (UEs) moving between including a plurality of cells in a mobile communication system providing the MBMS service, , the method comprising the steps of:

5 transmitting, in a cell providing the MBMS service, first system information including scheduling information necessary for accessing an MBMS control channel (MCCH) of the cell and second system information related to a code channel to which the MCCH of the cell is mapped; and

transmitting control information necessary for accessing an MBMS data
10 transport channel (MTCH) of the cell over the MCCH of the cell.

27. The method of claim 26, wherein the scheduling information includes a transmission period, a transmission time, and a data length for one period, for control information on a code channel to which the MCCH of the cell
15 is mapped.

28. The method of claim 26, wherein the second system information includes a spreading factor, a code number, and a transport format set (TFS) for a code channel to which the MCCH of the cell is mapped.

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29. The method of claim 26, wherein the control information includes a spreading factor, a code number, and a transport format set (TFS) of a code channel to which the MCCH of the cell is mapped, a service identifier for each MBMS service provided in the cell, packet data convergence protocol
25 (PDCP) information for an MBMS stream, and radio link control (RLC) information for the MBMS stream.